

### REMARKS

Applicant's undersigned counsel thanks the Examiner for the careful consideration given the application. Claim 8 has been amended to more positively define the invention, removing the "and/or is intended to contain" language.

The Examiner has rejected claims 1-8 and 10-12 under 35 U.S.C. 102(b) as anticipated by Ostberg et al. ("Use of Carbon Dioxide in the Production of Sulphate Pulp"). In the alternative, the Examiner rejected claims 1-8 and 10-12 under 35 U.S.C. 103(a) as obvious over Ostberg. Ostberg sets forth the advantages of adding carbon dioxide (CO<sub>2</sub>) to the wash water in a fiber plant. The CO<sub>2</sub> is not added in combination with alkali metal hydroxide, to achieve a significant buffering effect that will maintain the pH at a desired level throughout the paper making, as required by claim 1. For this reason, claim 1 and claims dependent from claim 1 are not anticipated by Ostberg.

Ostberg teaches that pH can be adjusted upward to about 9 to 9.5 adding only sodium hydroxide (NaOH), and that pH can be adjusted downward to about 8 adding only CO<sub>2</sub>. The present invention adds alkaline metal hydroxide and CO<sub>2</sub> to the pulp suspension regardless of the suspension's initial pH. Ostberg does not teach or suggest addition of both alkaline metal hydroxide and CO<sub>2</sub>, regardless of the pH of the pulp suspension. A skilled artisan using the teachings of Ostberg would have no reason to add pH-raising alkaline metal hydroxide when the desired endpoint is a lower pH. Similarly, the skilled artisan would not add pH-lowering CO<sub>2</sub> when a higher pH is desired. Finally, a skilled artisan would not add the combination of alkali metal hydroxide and CO<sub>2</sub> if the pH were already at the desired point.

The Examiner notes that on page 15, first paragraph, Ostberg refers to buffering capacity of CO<sub>2</sub>. This is the same buffering Ostberg referred to on page 509, second full paragraph: "CO<sub>2</sub> in a water solution is a non-corrosive weak

acid with a buffering capacity . . . ." Thus, Ostberg uses the inherent buffering capacity exhibited by addition of CO<sub>2</sub> alone in water, rather than the significant buffering effect achieved by addition of the inventive combination of alkaline metal hydroxide and CO<sub>2</sub>. Any alkali mentioned by Ostberg was added previously, to adjust the pH to 9-9.5, not in combination with CO<sub>2</sub> "to achieve a significant buffering effect of said pulp suspension while enabling utilization of an excess of said hydroxide or said carbon dioxide for adjusting the pH of said pulp suspension and maintaining the pH at a desired level throughout the paper making."

In summary, Ostberg does not teach or suggest addition of both alkaline metal hydroxide and CO<sub>2</sub>, regardless of the pulp suspension's pH, to achieve a significant buffering effect that lasts throughout the paper making. For these reasons, claim 1 and claims dependent from claim 1 define over Ostberg.

The Examiner has also rejected claims 1-12 under 35 U.S.C. as obvious over Ostberg in view of GB 815,247. The Examiner points to the statement in '247 that NaOH can be added to a slurry before adding CO<sub>2</sub>. GB 815,247 does not, however, teach or suggest a significant buffering effect that lasts throughout the paper making process. Furthermore, any buffering achieved at this point in the '247 reference is overcome in the subsequent bleaching and acidification steps. (See page 2, lines 51-112, especially lines 103-107.) Thus the '247 reference actually teaches away from the claimed invention, a process that creating a significant buffering effect that lasts throughout the paper making process. For these reasons, claim 1 defines over the combination of Ostberg and GB 815,247. Claims 2-12 depend from claim 1 and so are also allowable.

As all rejections from the Office action have now been addressed, applicant respectfully submits that the application is in condition for allowance. A notice of allowance is therefore respectfully requested. If there are any fees

required by this communication, please charge such fees to our  
Deposit Account No. 16-0820, order No. 32107.

Respectfully submitted,  
PEARNE & GORDON LLP

By Alan Bargmeyer  
Alan Bargmeyer, Reg. No. P-47404

526 Superior Avenue East, Suite 1200  
Cleveland, Ohio 44114  
(216) 579-1700

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Version of claim 8 showing changes

8. (Amended) Process according to claim 1, characterized in that said pulp suspension contains [and/or is intended to contain] calcium carbonate filler.